

**Notice of Allowability**

Application No.

10/782,448

Examiner

Cindy D. Khuu

Applicant(s)

MAKHLOUF ET AL.

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 02/09/06.
2. ☒ The allowed claim(s) is/are 1-23.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 12/08/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments, filed 02/09/06, with respect to the 35 U.S.C. 102(b) rejections have been fully considered and are persuasive. The 35 U.S.C. 102(b) rejections have been withdrawn.

### ***Examiner's Amendment***

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows: Cancel claims 24-25.

This application is in condition for allowance except for the presence of claims 24-25 are non-elected without traverse. Accordingly, claims 24-25 have been cancelled.

### ***Pertinent Art Cited***

The following US Patent Applications reveal the current state of the art:

Fukushi (US 5,793,250) teaches a method for determining a frequency error over at least one frequency search space for a received signal (Column 5, lines 45-50), the method comprising the steps of:

- a) calculating a first noise estimation (phase distortion) for a first frequency offset in a frequency search space (Column 3, lines 63-65);
- b) calculating at least a second noise estimation for a second frequency offset in said frequency search space (Column 3, lines 65-66).

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However, Fukushi does not teach at least

c) determining a minimum noise estimation from said calculated noise estimations, wherein said frequency error is the frequency offset corresponding to said minimum noise estimation.

Maalej et al. (US 6,249,180) teach an estimation of the residual phase noise and additive noise (Abstract, lines 3-4).

However, Maalej does not teach at least the method for determining a frequency error, the method comprising the steps of:

- a) calculating a first noise estimation;
- b) calculating at least a second noise estimation; and
- c) determining a minimum noise estimation from said calculated noise estimations.

#### ***Allowable Subject Matter***

Claims 1-23 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the allowance of claims 1, 11 and 20-23 is the inclusion of the limitation "determining a minimum noise estimation from said calculated noise estimations, wherein said frequency error is the frequency offset corresponding to said minimum noise estimation". The prior art of record, taken alone or in combination, fails to disclose or render obvious.

Claims 2-10 and 12-19 are allowed due to their dependency on claims 1 and 11.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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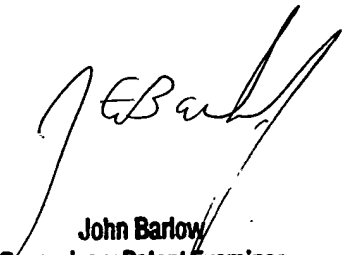
***Fax/Telephone Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cindy D. Khuu whose telephone number is (571) 272-8585. The examiner can normally be reached on M-F, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CAD 3/2/06

  
John Barlow  
Supervisory Patent Examiner  
Technology Center 2800